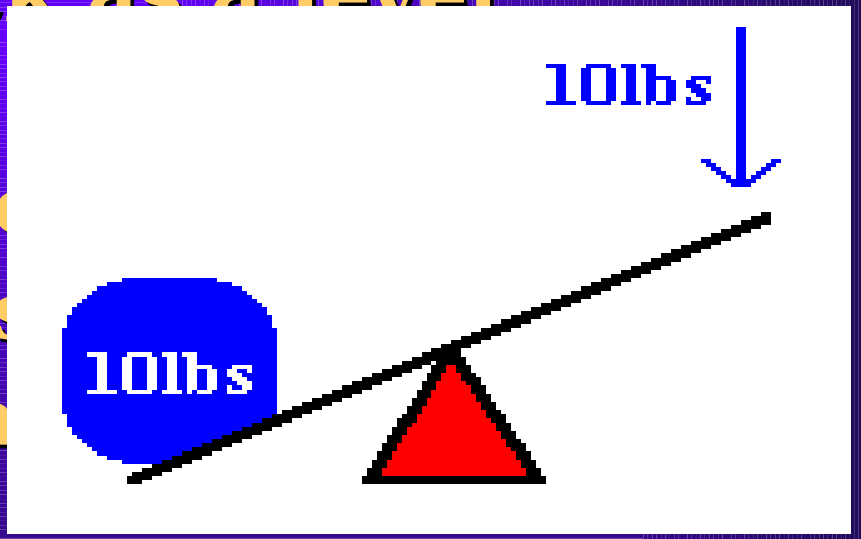
Fort Lee Safety Office

The Forces Involved

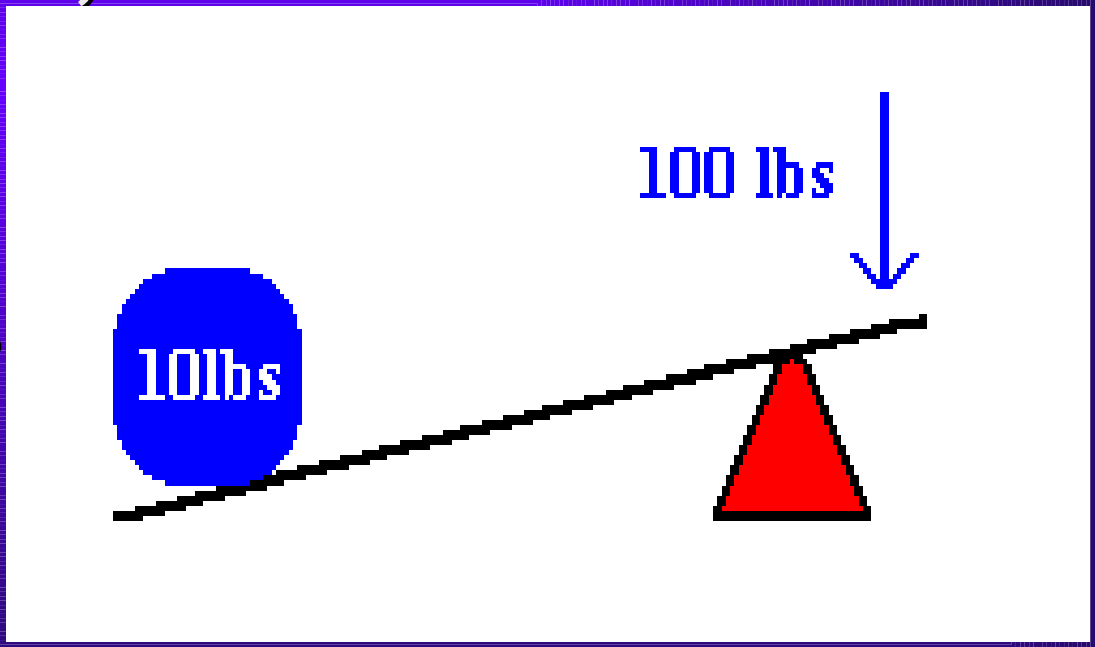
- The amount of force you place on your back in lifting may surprise you!
- Think of your back as a lever
- With the fulcrum in the center, it takes ten pounds pressure to lift a pound object.



The Forces Involved

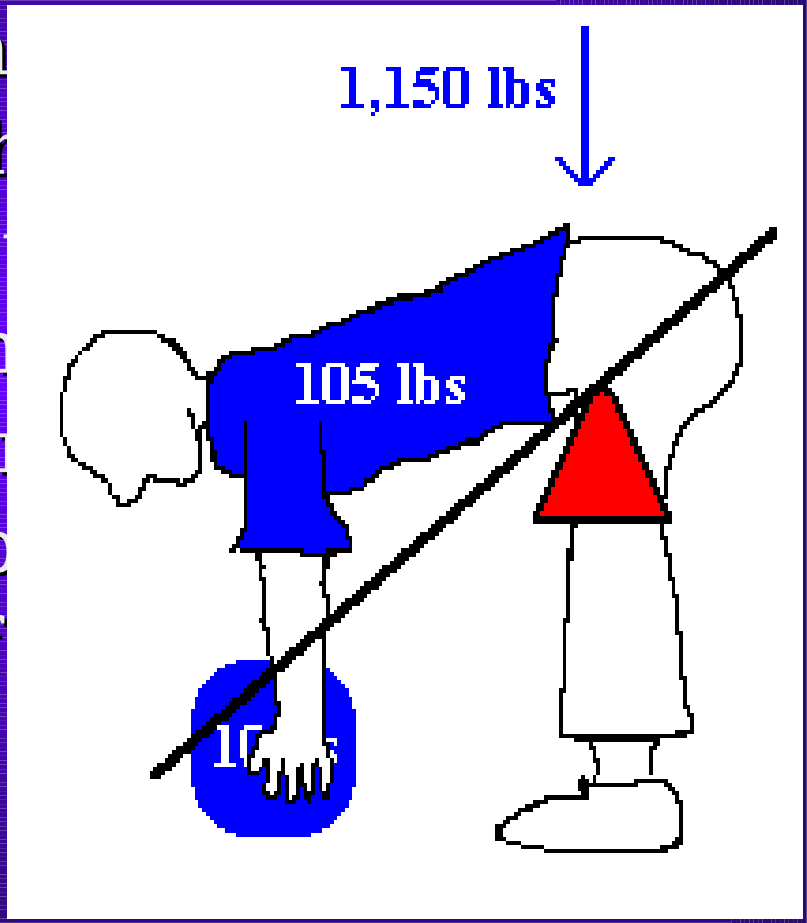
If you shift the fulcrum to one side, it takes much more force to lift the same object. Your waist acts like the fulcrum in a lever system, on a 10:1 ratio.

Lifting a ten pound object puts 100 pounds of pressure on your lower back.



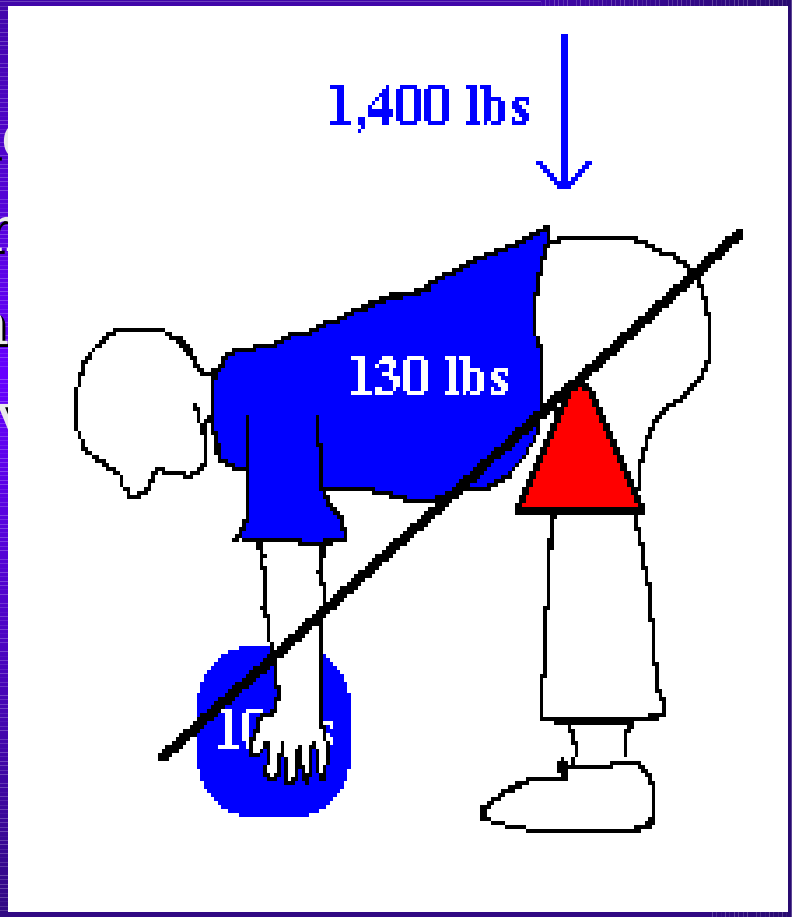
The Forces Involved

When you add in th
105 pounds of th
average human
torso, you see th
lifting a ten pou
object actually p
1,150 pounds of
pressure on the
lower back.



The Forces Involved

If you were 25 pounds
overweight, it would a
an additional 250 pour
of pressure on your ba
every time you bend o



Common Causes of Back Injuries

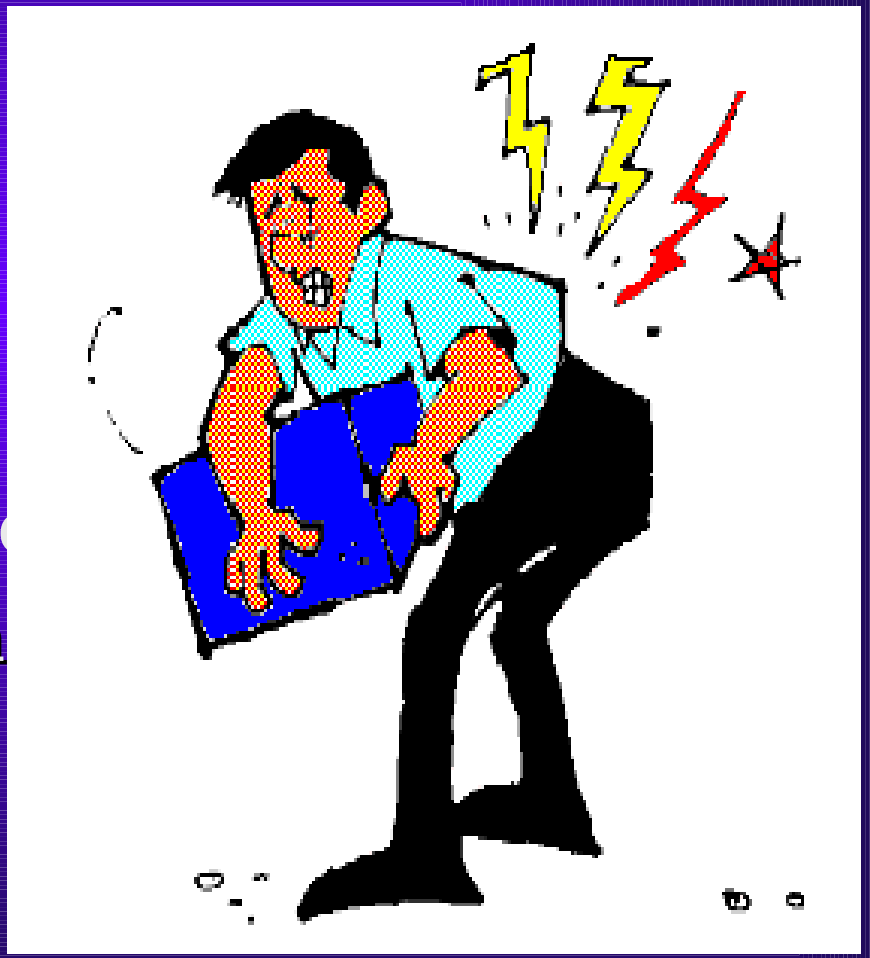
Anytime you find yourself doing one of these things, you should think:

DANGER! My back is at risk!

Try to avoid heavy lifting . . . Especially repetitive lifting over a long period of time

Common Causes of Back Injuries

Twisting at the waist while lifting or holding a heavy load . . . this frequently happe when using a sh



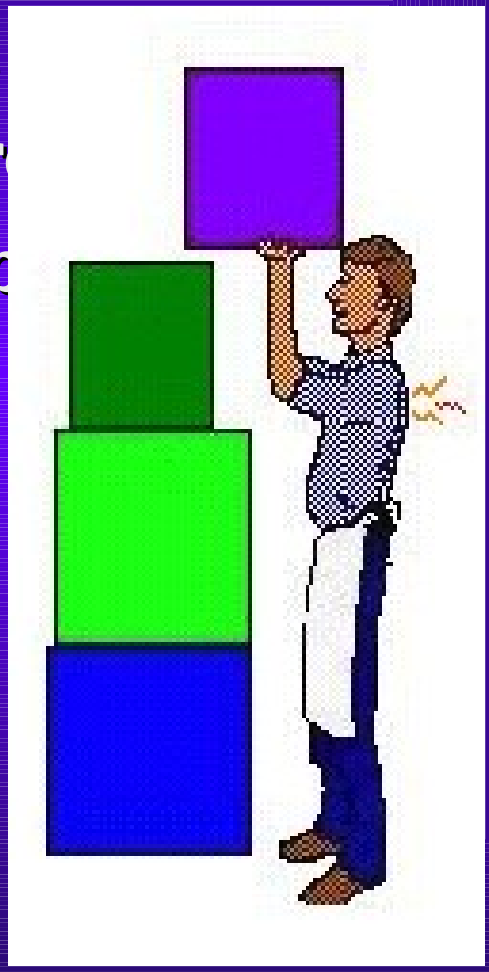
Common Causes of Back Injuries

Reaching and lifting . . .

over your head, acr

a table, or out the b

of a truck . . . .

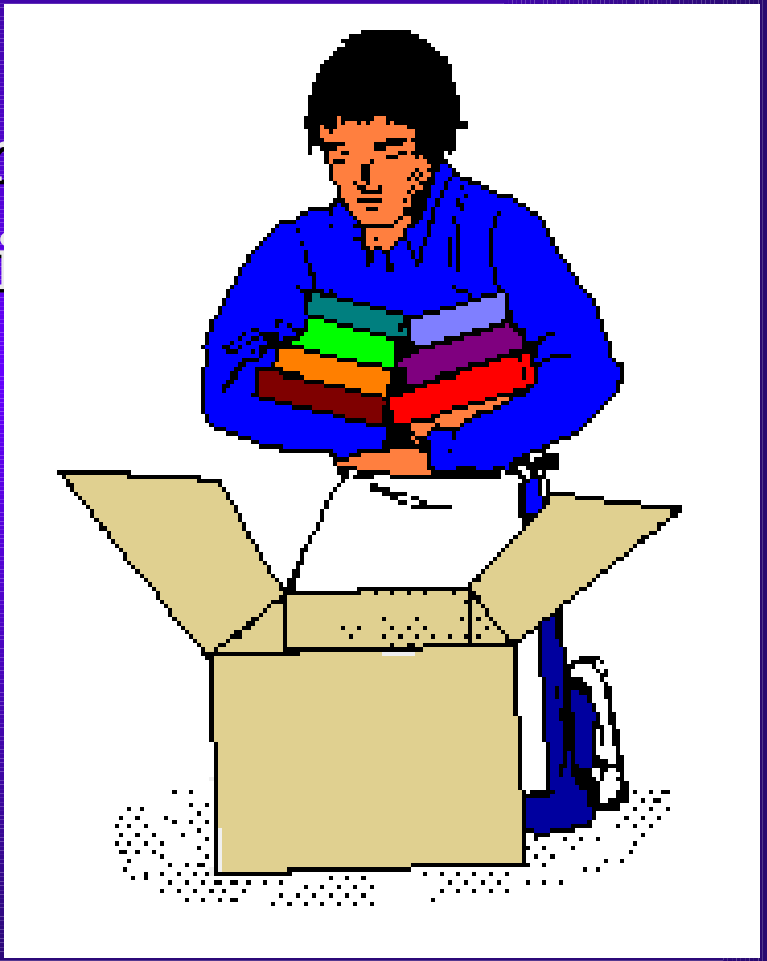


Common Causes of Back Injuries

- Lifting or carrying objects with awkw or odd shapes . . .

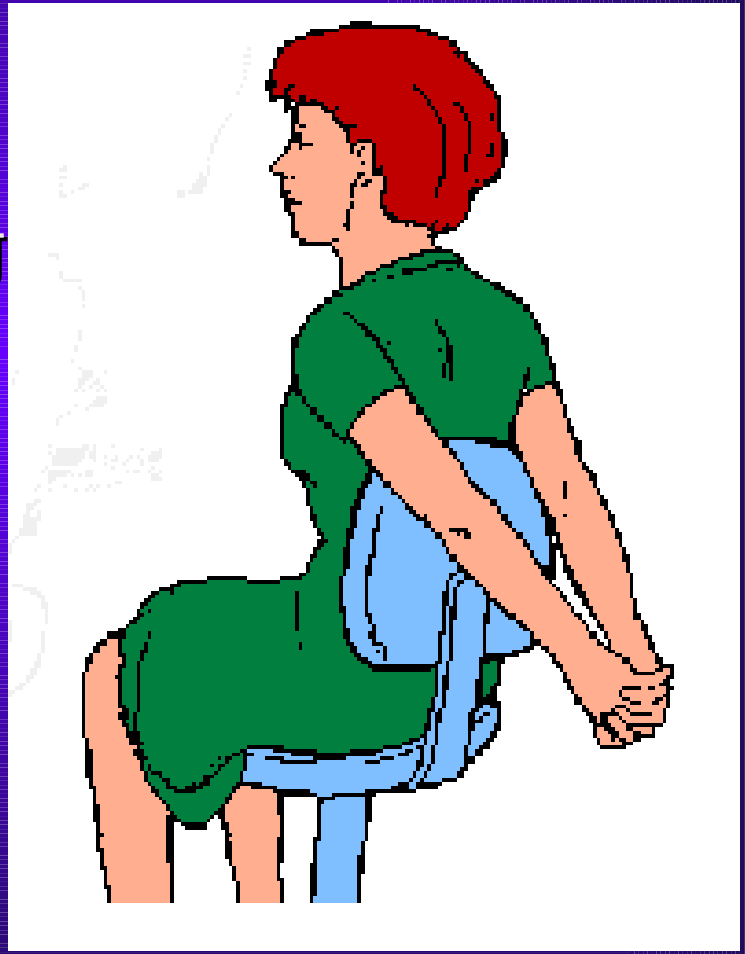
Common Causes of Back Injuries

- Working in awkwar
  uncomfortable posi



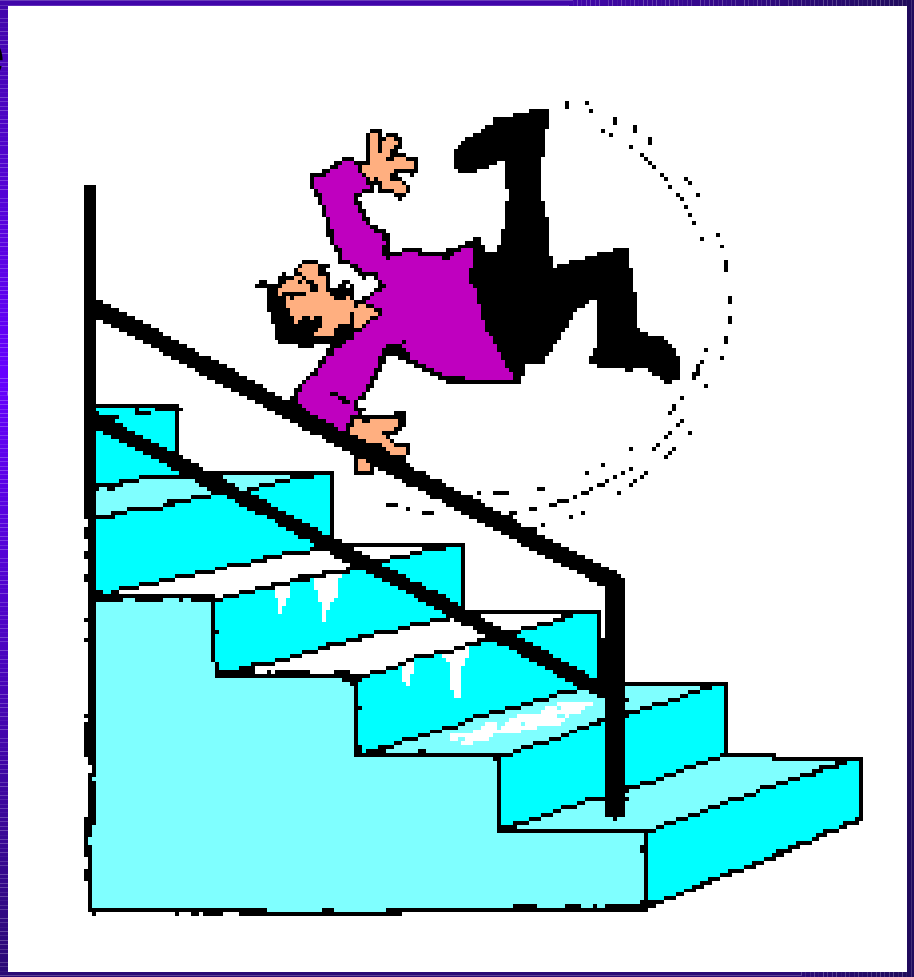
Common Causes of Back Injuries

Sitting or standing too long in one position . . . sitting can be very hard on the lower back



Common Causes of Back Injuries

It is also possible to injure your back slipping on a wet floor or ice



Prevent Back Injuries

- Avoid lifting and bending whenever you can.
- Place objects up off the floor.
- Raise/lower shelves.
- Use carts and dollies.
- Use cranes, hoists, lift tables, and other lift-assist devices whenever you can.
- Test the weight of an object before lifting by picking up a corner.
- Get help if it’s too heavy for you to lift it alone.

Prevent Back Injuries

- Use proper lift procedures . . . Follow these steps when lifting . . . .
  - Take a balanced stance, feet shoulder-width apart
  - Squat down to lift, get as close as you can.

Prevent Back Injuries

- Get a secure grip, hug the load.

- Lift gradually using your legs, keep load close to you, keep back and neck straight.

Prevent Back Injuries

- Once standing, change directions by pointing your feet and turn your whole body. Avoid twisting at your waist.
- To put load down, use these guidelines in reverse.

Things You Can Do

- Minimize problems with your back by exercises that tone the muscles in your back, hips and thighs.
- Before beginning any exercise program, you should check with your doctor

Exercise!

- Exercise regularly, every other day.

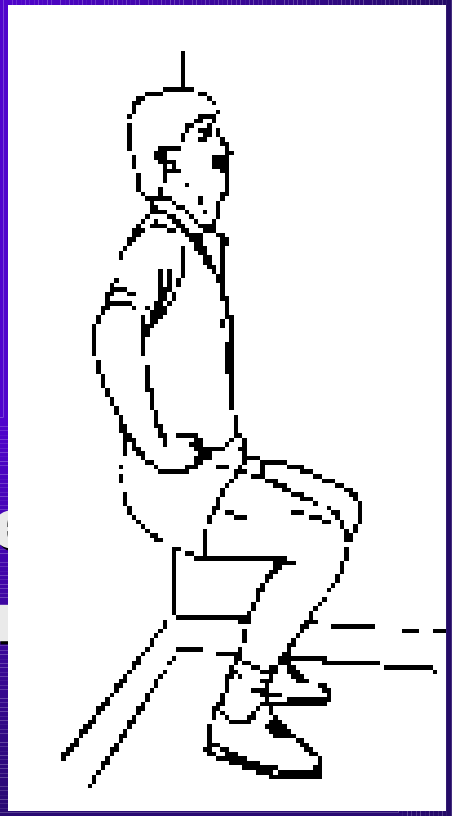
  Warm up slowly . . . A brisk walk is a good way to warm up

  Inhale deeply before each repetition of an exercise and exhale when performing each repetition.

Exercises To Help Your Back

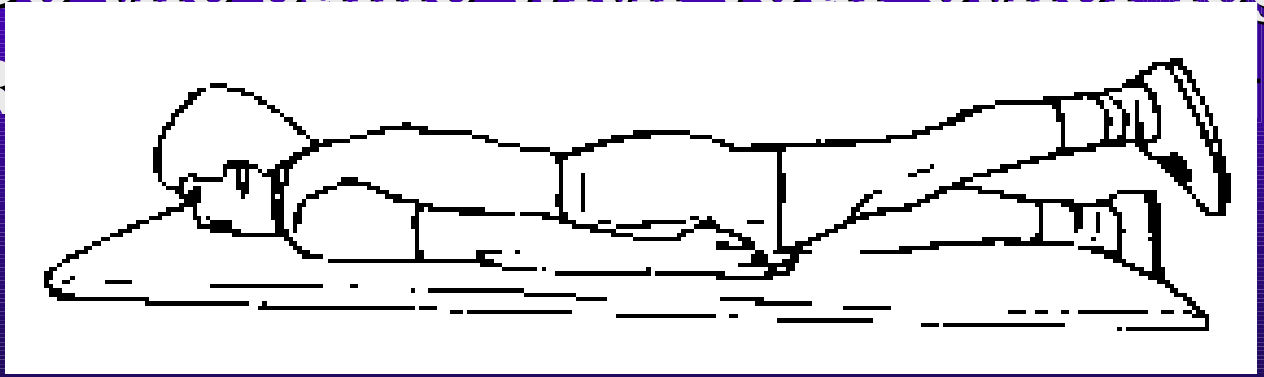
Wall slides to strengthen your muscles . . . .

Stand with your back against a wall, feet shoulder-width apart. Slide down into a crouch with knees bent to 90 degre Count to 5 and slide back u the wall. Repeat 5 times.



Exercises To Help Your Back

- Leg raises to strengthen back and hip muscles . . .
  - Lie on your stomach.
  - Tighten muscles in one leg and raise leg from floor.
  - Hold for count of 10, and return leg to floor.
  - Do the same with your other leg.
  - R[illegible].



Exercises To Help Your Back

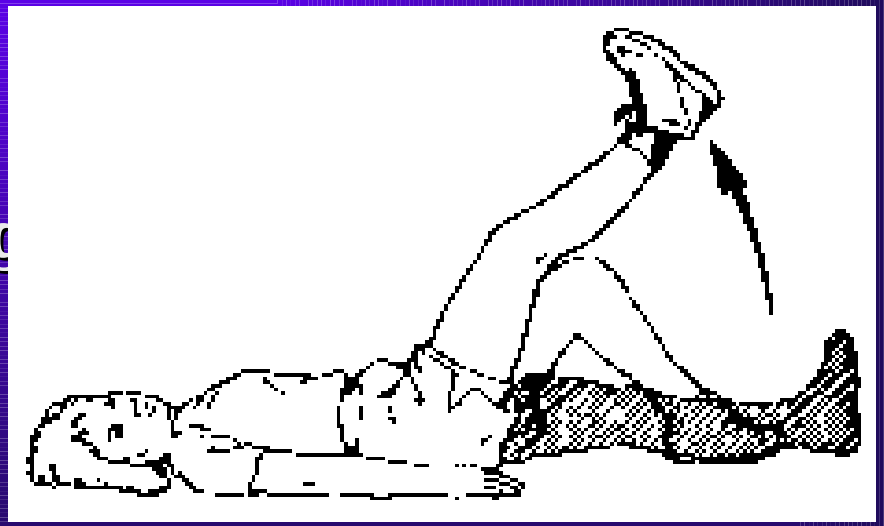
- Leg raises to strengthen back and hip muscles
- Lie on back, arms at your sides. Lift one leg off floor and hold for count of ten. Do the same with the other leg. Repeat 5 times with each leg. If this is too difficult...

keep one knee bent

and the foot flat on

the floor while raising

the other leg.

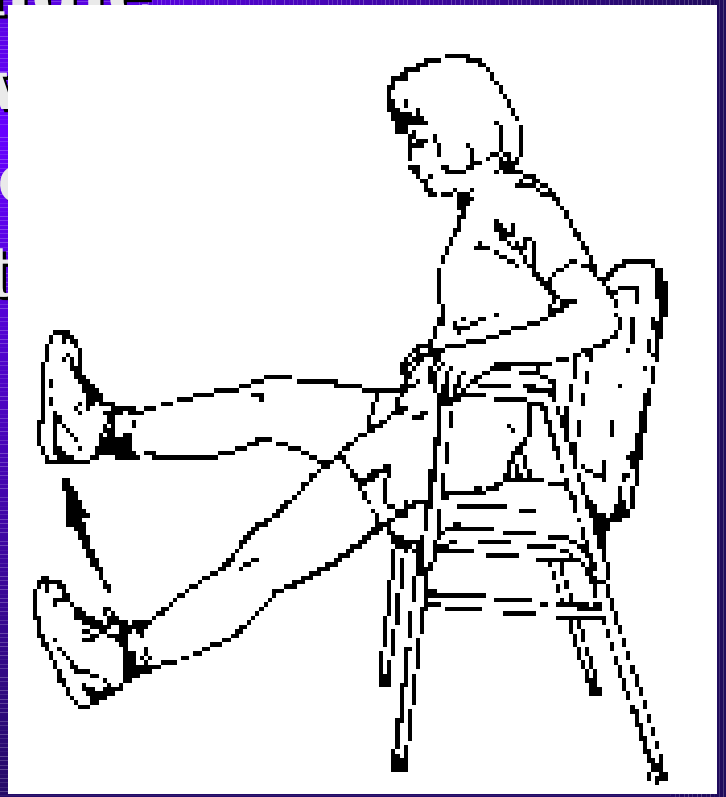


Exercises To Help Your Back

Leg raises while seated . . .

Sit upright, legs straight and extended at an angle to floor. Lift one leg v high. Slowly return t floor. Do the same wit the other leg.

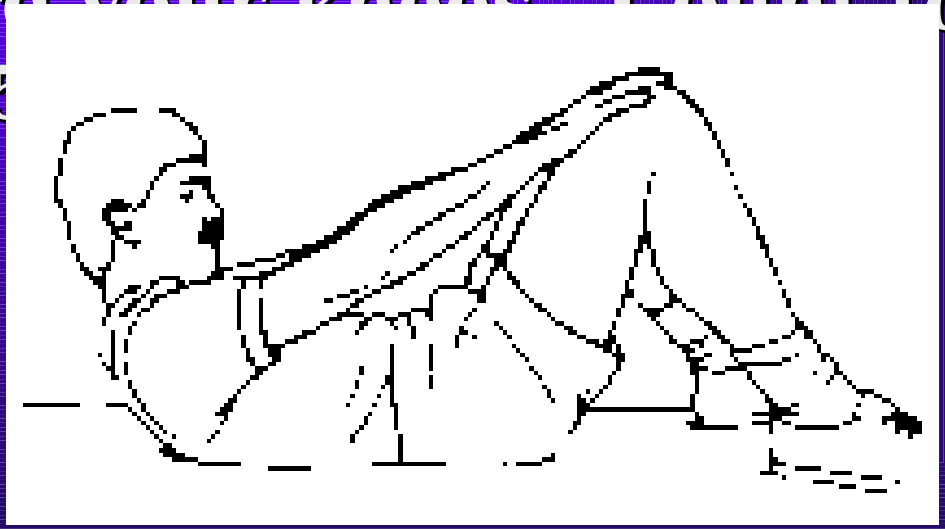
Repeat 5 times with each leg.



Exercises To Help Your Back

Partial sit-up to strengthen stomach muscles . . . .

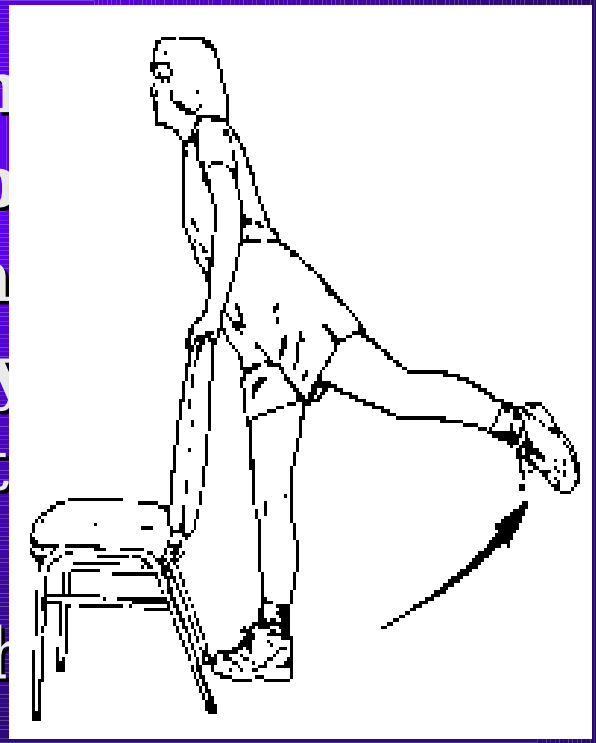
Lie on back, knees bent and feet flat on floor. Slowly raise head and shoulders off floor and reach both hands toward your knees. Count to 10. Repeat 5



Exercises To Help Your Back

Back leg swing to strengthen hip and back muscles . . . .

Stand behind chair, han
on chair. Lift one leg b
and up, keeping the kn
straight. Return slowly
Raise other leg and ret



Repeat 5 time with each

Exercises To Decrease the Strain on Your Back

Lie on back, knees bent, feet flat on floor.

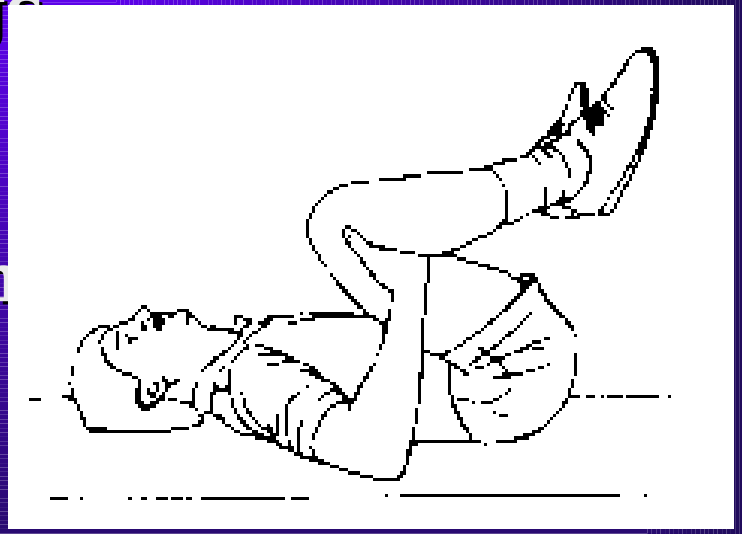
Raise knees toward chest.

Place hands under knees & pull knees to chest.

Do not raise head.

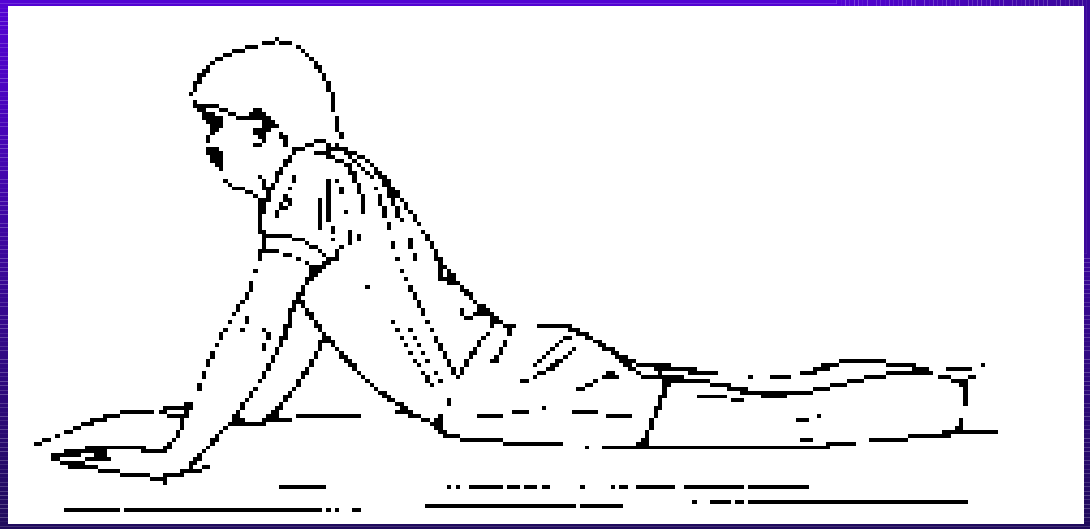
Do not straighten legs as you lower them.

Start with 5 repetitions several time a day.



Exercises To Decrease the Strain on Your Back

Lie on stomach, hands under shoulders, elbows bent and push up. Raise top half of body as high as possible. Keep hips and legs on floor. Hold for one or two seconds. Repeat 10 times, several times a day.



Exercises To Decrease the Strain on Your Back

Stand with feet apart.

Place hands in small of back. Keep knees straig

Bend backwards at waist as far as possible and ho for one or two seconds.

Repeat as needed.

Take care of your back…

- And it will take care of you
  - Exercise daily
  - Avoid Heavy Lifting
  - Get Help with heavy or bulky objects
  - If you must bend over, do it properly
  - Avoid twisting at the waist when carrying objects
  - Always watch where you’re going

Fort Lee Safety Office

- To obtain additional training material on Back Safety or Lifting, visit the Fort Lee Safety Office or call 765-3130